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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/760,194	01/21/2004	Kia Silverbrook	MPA19US	2173
24011 7590 02/18/2009 SILVERBROOK RESEARCH PTY LTD 393 DARLING STREET BALMAIN, 2041 AUSTRALIA				
EXAMINER UHLENHAKE, JASON S				
ART UNIT 2853		PAPER NUMBER		
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/760,194

Applicant(s)

SILVERBROOK ET AL.

Examiner

JASON S. UHLENHAKE

Art Unit

2853

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 December 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SI/02)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date _____

DETAILED ACTION

Claim Objections

Claim 6 is objected to because of the following informalities: "said direct alignment" as recited in line 3 of claim 6 and a direct alignment is not defined previously in the claim, therefore there is insufficient antecedent basis for this limitation.

Appropriate correction is required.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thornton*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-6 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-2, 5 of U.S. Patent No. 7,322,672 in view

of Ishikawa U.S. Patent No. 6,618,068. The claim elements of claims 1-6 of the instant application are contained in claims 1-2 and 5 of Patent 7,322,672.

Silverbrook (7,322,672) does not disclose a circuit board having a connecting portion and carrying respective slotted connection ports for receiving and connecting with the corresponding connecting portions of the circuit boards; and wherein the connecting portions are configured to slot within the slotted connection ports

Ishikawa discloses each circuit board (22b) having a connecting portion (23); a printed circuit board (22a) carrying respective slotted connection ports for receiving, and connecting with the corresponding connecting portions of the circuit boards, the connecting portions begin configured to slot within the slotted connection ports (Figure 4; Column 8, Lines 44-61). It would be obvious to one of ordinary skill in the art to incorporate the teachings of Ishikawa, for the purpose of the design being compact and lightweight.

Claims for application 10/760,194	Claims for Patent 7,322,672
1	1
2-3	2
4	1-2
5	2
6	5

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Silverbrook et al (U.S. Pat. 6,439,908) in view of Ishikawa (U.S. Pat. 6,618,068) and Chee et al (U.S. Pat. 6,429,891).

Silverbrook discloses:

- ***regarding claim 1***, a print head assembly, comprising: at least one print head module (10 of Figure 2) comprising at least two print head integrated circuits, (18 of Figure 4) each of which has nozzles formed therein for delivering printing fluid onto the surface of print media (Column 3, Lines 45-47), one support member supporting (28 of Figure 8), and carrying the printing fluid for, and at least two flexible printed circuit boards for connecting electrical signals to the at least two print head integrated circuits (22 of Figure 8), each flexible printed circuit board having a connecting portion (Column 2, Lines 9-16)
- drive electronics incorporating at least one controller which is connected to at least one of the at least two print head integrated circuits via the respective flexible printed circuit board for controlling the printing operation of at least one of the at least two print head integrated circuits (Column 3, Lines 48-49; 59-65)

- a casing in which the at least one print head module and the drive electronics are removably mounted (housing/frame of the printing apparatus and 14 of Figures 1, 3)
- **regarding claim 2**, wherein the printed circuit board of the drive electronics is supported by a support frame of the casing (14 of Figures 1 and 3)
- **regarding claim 3**, a plurality of longitudinally extending electrical conductors removably mounted to the support frame and arranged to provide power from a power supply to the drive electronics and that at least two print head integrated circuits (Column 3, Lines 56-65)
- **regarding claim 4**, wherein power from the plurality of electrical conductors is delivered to the drive electronics and the print head integrated circuits via the respective flexible printed circuit boards (Column 2, Lines 9-16; Column 3, Lines 56-65)
- **regarding claim 5**, at least one print head module (10 of Figure 2) is formed as a unitary arrangement of the at least two print head integrated circuits (18 of Figure 4), the support member (28 of Figure 8), the at least two flexible printed circuit boards (22) and at least one fluid distribution member (26 of Figure 7) mounting the at least two print head integrated circuits to the support member
- the support member has at least one longitudinally extending channel (30 of Figure 8) for carrying the printing fluid of the print head integrated circuits and includes a plurality of apertures (72 of Figure 8) extending through a wall of the support member arranged so as to direct the printing fluid from the at least one channel to

associated nozzles in both, or if more than two, all of the print head integrate circuits by way of respective ones of the fluid distribution members (Figure 7; Column 3, Lines 45-47)

- **regarding claim 6**, wherein the support member incorporates lugs (tips of 44 of Figure 11) which cooperate with recesses (92 or 97 of Figure 3) of the casing so as to provide direct alignment of the connecting portions and connection ports

Silverbrook does not disclose expressly the following:

- **regarding claim 1**, a printed circuit board carrying respective slotted connection ports for receiving, and connecting with the corresponding connecting portions of the circuit boards, the connecting portions being configured to slot within the slotted connection ports; and the casing is configured to allow movement of the connected print head module, flexible printed circuit board and drive electronics printed circuit board along the casing during the printing operation of the print head integrated circuits

Ishikawa discloses:

- **regarding claim 1**, a printed circuit board (22a) carrying respective slotted connection ports for receiving, and connecting with the corresponding connecting portions of the circuit boards, the connecting portions being configured to slot within the slotted connection ports (Figure 4; Column 8, Lines 44-61), for the purpose of the design being compact and lightweight

Chee discloses:

- **regarding claim 1**, the casing is configured to allow movement of the connected print head module, flexible printed circuit board and drive electronics printed circuit board along the casing during the printing operation of the print head integrated circuits (Abstract; Column 8, Lines 7-23), for the purpose of allowing for thermal dimensional variations in the housing structure without inducing a torque on the housing that would affect skew relationships. Thermal expansion will occur due to temperature changes during the operation of the printing apparatus.

At the time the invention was made it would have been obvious to a person of ordinary skill in the art to incorporate the teaching of Ishikawa and Chee into the device of Silverbrook, for the purpose of the design being compact and lightweight; and allowing for thermal dimensional variations in the housing structure without inducing a torque on the housing that would affect skew relationships.

Response to Arguments

Applicant's arguments with respect to claims 1-6 have been considered but are moot in view of the new ground(s) of rejection. Please see the above rejection regarding Silverbrook et al (U.S. Pat. 6,439,908) in view of Ishikawa (U.S. Pat. 6,618,068) and Chee et al (U.S. Pat. 6,429,891).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JASON S. UHLENHAKKE whose telephone number is (571)272-5916. The examiner can normally be reached on Monday-Friday 8:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/JASON S UHLENHAKES/
Examiner, Art Unit 2853
February 11, 2009

/Julian D. Huffman/
Primary Examiner, Art Unit 2853